AMENDMENTS TO THE CLAIMS

1. (Original) A method for calculating a revised dose of an anticoagulant for a patient using said anticoagulant, comprising the steps of:

accepting as a first input the patient's current anticoagulant dose;

accepting as a second input a maximum dose of the anticoagulant;

accepting as a third input a percent response of the patient based on one or more surrogate markers for said patient; and

determining a revised dose, wherein said revised dose is a function of said current dose minus a ratio of the percent response of the patient and a ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

2. (Original) The method of claim 1, wherein:

said determining step includes determining said revised dose based on the equation

$$RAD = CAD - \{[\langle(PAR - 100)/PAR\rangle/\langle 1 + (CAD/HIGH)\rangle] \times CAD\} + LV$$

where:

$$LV = \{(RESPONSE \times CAD) \times [(100 - RES) \times 0.01]\} / 1.3^{(CAD/HIGH)}$$

and wherein:

RAD = Revised Anticoagulant Dose

CAD = Current Anticoagulant Dose

PAR = Percent response of patient to surrogate marker

RES = Percent response of patient to last dosing based on surrogate marker

HIGH = The input parameter that is the high dose range for said anticoagulant

RESPONSE = Percent of total dose available for individualizing patient dose

1.3^(CAD/HIGH) = 1.3 raised to an exponent of (CAD/HIGH).

3. (Original) The method of claim 1, wherein: said anticoagulant is selected from a group comprising warfarin, Coumadin®, heparin, warfarin sodium salt, coumarin derivatives, indandione derivatives, dicumarol, anisindione, phenindione, ethyl bicoumacetate, bishydroxycoumarin, abcimixab, Reopro®, actilyse, alteplase, Activase®, anagrelide, Agrylin®, anistreplase, Eminase®, antithrombin III, Thrombate III®, ardeparin, Normiflo®, argatroban, clopidrogel, Plavix®, dalteparin, Fragmin®, danaparoid, Orgaran®, dipyridamole, Persantine®, dipyridamole/aspirin, Aggrenox®, duteplase, enoxaparin, Lovenox®, eptifibatide, Integrilin®, lepirudin, Refludan®, nadroparin, Fraxiparine®, oprelvekin, Neumega®, pentosan polysulfate sodium, Elmiron®, reteplase, Retavase®, reviparin, Clivarine®, saruplase, streptokinase, Kabikinase®, Streptase®, tinzaparin, Innohep®, tirofiban, Aggrastat®, unfractionated heparin, low molecular weight heparin, all antithrombotic agents, all vitamin K antagonists, and all substances derived from and/or related to the foregoing substances.

4. (Original) A method for calculating a revised dose of a anticoagulant for a patient using said anticoagulant comprising the steps of:

accepting as a first input the patient's current anticoagulant dose;

accepting as a second input ~~the~~ maximum dose of the anticoagulant;

accepting as a third input one or more numerical markers indicating a response of the patient; and

calculating said revised dose, wherein said revised dose is a function of said current dose minus the ratio of the change in numerical markers and the ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

5. (Currently Amended) The method of claim 4, wherein:

said calculating step includes calculating said revised dose based on the equation

RAD = CAD - {[((CANM - DANM)/CANM)/(1 + (CAD/HIGH))] x CAD} + LV

where:

LV = {(RESPONSE x CAD) x [(1+D) - (1+E)]/ abs (1+D)}/1.3^(CAD/HIGH)

E = CANM - PANM

~~D = DDNM - PDNM~~ D = DANM - PANM

and wherein:

RAD = Revised Anticoagulant Dose

CAD = Current Anticoagulant Dose

CANM = Current Anticoagulant Numerical Marker

DANM = Desired Anticoagulant Numerical Marker

PANM = Previous Anticoagulant Numerical Marker

HIGH = The input parameter that is the high dose range for said anticoagulant

RESPONSE = Percent of total dose available for individualizing patient dose

abs = The absolute value of

1.3^(CAD/HIGH) = 1.3 raised to an exponent of (CAD/HIGH).

6. (Original) The method of claim 4, wherein:

said anticoagulant is selected from a group comprising warfarin, Coumadin®, heparin, warfarin sodium salt, coumarin derivatives, indandione derivatives, dicumarol, anisindione, phenindione, ethyl bicoumacetate, bishydroxycoumarin, abcimixab, Reopro®, actilyse, alteplase, Activase®, anagrelide, Agrylin®, anistreplase, Eminase®, antithrombin III, Thrombate III®, ardeparin, Normiflo®, argatroban, clopidrogel, Plavix®, dalteparin, Fragmin®, danaparoid, Orgaran®, dipyridamole, Persantine®, dipyridamole/aspirin, Aggrenox®, duteplase, enoxaparin, Lovenox®, eptifibatide, Integrilin®, lepirudin, Refludan®, nadroparin, Fraxiparine®, oprelvekin, Neumega®, pentosan polysulfate sodium, Elmiron®, reteplase, Retavase®, reviparin, Clivarine®, saruplase, streptokinase, Kabikinase®, Streptase®, tinzaparin, Innohep®, tirofiban, Aggrastat®, unfractionated heparin, low molecular weight heparin, all antithrombotic agents, all vitamin K antagonists, and all substances derived from and/or related to the foregoing substances.

7. (Original) A method for determining a dose of a anticoagulant for a patient, comprising the steps of:

administering an initial dose of said anticoagulant to the patient;

evaluating the patient to monitor and characterize one or more numerical surrogate markers;

determining, based on said numerical surrogate markers, if a dose change for said anticoagulant is necessary; and

calculating a revised dose as a function of said current dose minus the ratio of a percent response of the patient and the ratio of said current dose to ~~said~~ maximum dose plus the percent of individual patient response multiplied by a response factor.

8. (Original) The method of claim 7, wherein:

said anticoagulant is selected from a group comprising warfarin, Coumadin®, heparin, warfarin sodium salt, coumarin derivatives, indandione derivatives, dicumarol, anisindione, phenindione, ethyl bicoumacetate, bishydroxycoumarin, abcimixab, Reopro®, actilyse, alteplase, Activase®, anagrelide, Agrylin®, anistreplase, Eminase®, antithrombin III, Thrombate III®, ardeparin, Normiflo®, argatroban, clopidrogel, Plavix®, dalteparin, Fragmin®, danaparoid, Orgaran®, dipyridamole, Persantine®, dipyridamole/aspirin, Aggrenox®, duteplase, enoxaparin, Lovenox®, eptifibatide, Integrilin®, lepirudin, Refludan®, nadroparin, Fraxiparine®, oprelvekin, Neumega®, pentosan polysulfate sodium, Elmiron®, reteplase, Retavase®, reviparin, Clivarine®, saruplase, streptokinase, Kabikinase®, Streptase®, tinzaparin, Innohep®, tirofiban, Aggrastat®, unfractionated heparin, low molecular weight heparin, all antithrombotic agents, all vitamin K antagonists, and all substances derived from and/or related to the foregoing substances.

9. (Original) A method for determining a dose of an anticoagulant for a patient, comprising the steps of:

administering an initial dose of said anticoagulant to the patient;

examining the patient to monitor and characterize one or more numerical surrogate markers;

determining if a dose change is necessary; and

calculating a revised dose as a function of said current dose minus the ratio of the change in numerical markers and the ratio of said current dose to ~~said~~ the maximum dose plus the percent of individual patient response multiplied by a response factor.

10. (Original) A method for calculating a revised dose of an anticoagulant for a patient, comprising the steps of:

accepting as input the patient's current anticoagulant dose;

accepting as input ~~the~~ a maximum dose of the anticoagulant;

accepting as input the percent response of the patient based on surrogate markers; and

calculating a revised dose, wherein said revised dose is a function of said current dose, said maximum dose, and said percent response of the patient based on said surrogate markers.

11. (Original) A method for calculating a revised dose of an anticoagulant for a patient, comprising the steps of:

accepting as input a patient's current anticoagulant dose;

accepting as input a maximum dose of the anticoagulant;

accepting as input the previous, current and desired values of one or more numerical markers indicating the response of the patient; and

calculating a revised dose, wherein said revised dose is a function of said current dose, said maximum dose, and said previous, current and desired values of said numerical markers.

12. (Original) A storage device having stored thereon an ordered set of instructions which, when executed by a computer, performs a method comprising the steps of:

accepting as input a patient's current anticoagulant dose;

accepting as input a maximum dose of the anticoagulant;

accepting as input a percent response of a patient based on surrogate markers; and

calculating a revised dose, wherein said revised dose is a function of said current dose minus the ratio of a percent response of the patient and the ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

13. (Original) The storage device of claim 12, wherein:

said anticoagulant is selected from a group comprising warfarin, Coumadin®, heparin, warfarin sodium salt, coumarin derivatives, indandione derivatives, dicumarol, anisindione, phenindione, ethyl bicoumacetate, bishydroxycoumarin, abcimixab, Reopro®, actilyse, alteplase, Activase®, anagrelide, Agrylin®, anistreplase, Eminase®, antithrombin III, Thrombate III®, ardeparin, Normiflo®, argatroban, clopidrogel, Plavix®, dalteparin, Fragmin®, danaparoid, Orgaran®, dipyridamole, Persantine®, dipyridamole/aspirin, Aggrenox®, duteplase, enoxaparin, Lovenox®, eptifibatide, Integrilin®, lepirudin, Refludan®, nadroparin, Fraxiparine®, oprelvekin, Neumega®, pentosan polysulfate sodium, Elmiron®, reteplase, Retavase®, reviparin, Clivarine®, saruplase, streptokinase, Kabikinase®, Streptase®, tinzaparin, Innohep®, tirofiban, Aggrastat®, unfractionated heparin, low molecular weight heparin, all antithrombotic agents, all vitamin K antagonists, and all substances derived from and/or related to the foregoing substances.

14. (Original) A storage device having stored thereon an ordered set of instructions which, when executed by a computer, performs a method comprising the steps of:

accepting as input the patient's current anticoagulant dose;

accepting as input ~~the~~ a maximum dose of the anticoagulant;

accepting as input one or more numerical markers indicating the response of the patient; and

calculating a revised dose, wherein said revised dose is a function of said current dose minus the ratio of the change in numerical markers and the ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

15. (Original) An apparatus for calculating a revised dose of an anticoagulant for a patient comprising:

means for accepting as input one or more markers which indicate a patient's response to a dose of said anticoagulant;

means for accepting as input the patient's current anticoagulant dose;

means for accepting as input the maximum dose of the anticoagulant; and

means for calculating a revised dose of the anticoagulant as a function of said markers, said current anticoagulant dose, and said maximum anticoagulant dose.

16. (Original) The apparatus of claim 15, wherein:

said markers are actual numerical markers

17. (Original) The apparatus of claim 15, wherein:

said markers are surrogate markers representing a percent response of the patient to the anticoagulant.

18. (Currently Amended) The apparatus of claim 15, wherein:

said revised dose is calculated by the equation:

RAD = CAD - {[⟨((CANM - DANM)/CANM)/⟨1 + (CAD/HIGH)⟩] x CAD} + LV

where:

LV = {(RESPONSE x CAD) x [(1+D) - (1+E)]/ abs (1+D)} / 1.3^(CAD/HIGH)

E = CANM – PANM

~~D = DDNM - PDNM~~ D = DANM - PANM

and wherein:

RAD = Revised Anticoagulant Dose

CAD = Current Anticoagulant Dose

CANM = Current Anticoagulant Numerical Marker

DANM = Desired Anticoagulant Numerical Marker

PANM = Previous Anticoagulant Numerical Marker

HIGH = The input parameter that is the high dose range for said anticoagulant

RESPONSE = Percent of total dose available for individualizing patient dose

abs = The absolute value of

1.3^(CAD/HIGH) = 1.3 raised to an exponent of (CAD/HIGH).

19. (Original) The apparatus of claim 15, wherein:

said revised dose is calculated by the equation:

RAD = CAD - {[⟨(PAR - 100)/PAR⟩/⟨1 + (CAD/HIGH)⟩] x CAD} + LV

where:

LV = {(RESPONSE x CAD) x [(100 - RES) x 0.01]} / 1.3^(CAD/HIGH)

and wherein:

RAD = Revised Anticoagulant Dose

CAD = Current Anticoagulant Dose

PAR = Percent response of patient to surrogate marker

RES = Percent response of patient to last dosing based on surrogate marker

HIGH = The input parameter that is the high dose range for said anticoagulant

RESPONSE = Percent of total dose available for individualizing patient dose

1.3^(CAD/HIGH) = 1.3 raised to an exponent of (CAD/HIGH).

20. (Original) The apparatus of claim 15, wherein:

said anticoagulant is selected from a group comprising warfarin, Coumadin®, heparin, warfarin sodium salt, coumarin derivatives, indandione derivatives, dicumarol, anisindione, phenindione, ethyl bicoumacetate, bishydroxycoumarin, abcimixab, Reopro®, actilyse, alteplase, Activase®, anagrelide, Agrylin®, anistreplase, Eminase®, antithrombin III, Thrombate III®, ardeparin, Normiflo®, argatroban, clopidrogel, Plavix®, dalteparin, Fragmin®, danaparoid, Orgaran®, dipyridamole, Persantine®, dipyridamole/aspirin, Aggrenox®, duteplase, enoxaparin, Lovenox®, eptifibatide, Integrilin®, lepirudin, Refludan®, nadroparin, Fraxiparine®, oprelvekin, Neumega®, pentosan polysulfate sodium, Elmiron®, reteplase, Retavase®,

reviparin, Clivarine®, saruplase, streptokinase, Kabikinase®, Streptase®, tinzaparin, Innohep®, tirofiban, Aggrastat®, unfractionated heparin, low molecular weight heparin, all antithrombotic agents, all vitamin K antagonists, and all substances derived from and/or related to the foregoing substances.

21. (Original) A method for calculating a revised dose of Coumadin® for a patient using Coumadin®, comprising the steps of:

accepting as a first input the patient's current Coumadin® dose;

accepting as a second input a maximum dose of Coumadin®;

accepting as a third input a percent response of the patient based on one or more surrogate markers for said patient; and

determining a revised dose, wherein said revised dose is a function of said current dose minus a ratio of the percent response of the patient and a ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

22. (Original) The method of claim 21, wherein:

said determining step includes determining said revised dose based on the equation

$$RCD = CCD - \{[(PCR - 100)/PCR\rangle /\langle 1 + (CCD/HIGH)\rangle] \times CCD\} + LV$$

where:

$$LV = \{(RESPONSE \times CCD) \times [(100 - RES) \times 0.01]\} \; 1.3^{\wedge}(CCD/HIGH)$$

and wherein:

RCD = Revised Coumadin® Dose

CCD = Current Coumadin® Dose

PCR = Percent response of patient to surrogate marker

RES = Percent response of patient to last dosing based on surrogate marker

HIGH = The input parameter that is the high dose range for Coumadin®

RESPONSE = Percent of total dose available for individualizing patient dose

1.3^(CCD/HIGH) = 1.3 raised to an exponent (CCD/HIGH).

23. (Original) A method for calculating a revised dose of Coumadin® for a patient using Coumadin®, comprising the steps of:

accepting as a first input the patient's current Coumadin® dose;

accepting as a second input the maximum dose of Coumadin®;

accepting as a third input one or more numerical markers indicating a response of the patient; and

calculating said revised dose, wherein said revised dose is a function of said current dose minus the ratio of the change in numerical markers and the ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

24. (Original) The method of claim 23, wherein:

said calculating step includes calculating said revised dose based on the equation

RCD = CCD - {[((CCNM - DCNM)/CCNM)/⟨1 + (CCD/HIGH)⟩] x CCD} + LV

where:

LV = {(RESPONSE x CCD) x [(1+D) - (1+E)]/abs (1+D)} / 1.3^(CCD/HIGH)

E = CCNM - PCNM

D = DCNM - PCNM

and wherein:

RCD = Revised Coumadin® Dose

CCD = Current Coumadin® Dose

CCNM = Current Coumadin® Numerical Marker

DCNM = Desired Coumadin® Numerical Marker

PCNM = Previous Coumadin® Numerical Marker

HIGH = The input parameter that is the high dose range for Coumadin®

RESPONSE = Percent of total dose available for individualizing patient dose

abs = The absolute value of

1.3^(CCD/HIGH) = 1.3 raised to an exponent of (CCD/HIGH).

25. (Original) A method for determining a dose of Coumadin® for a patient, comprising the steps of:

administering an initial dose of Coumadin® to the patient;

evaluating the patient to monitor and characterize one or more numerical surrogate markers;

determining, based on said numerical surrogate markers, if a dose change for Coumadin® is necessary; and

calculating a revised dose as a function of said current dose minus the ratio of a percent response of the patient and the ratio of said current dose to ~~said~~ the maximum dose plus the percent of individual patient response multiplied by a response factor.

26. (Original) A method for determining a dose of Coumadin® for a patient, comprising the steps of:

administering an initial dose of Coumadin® to the patient;

examining the patient to monitor and characterize one or more numerical surrogate markers;

determining if a dose change is necessary; and

calculating a revised dose as a function of said current dose minus the ratio of the change in numerical markers and the ratio of said current dose to ~~said~~ the maximum dose plus the percent of individual patient response multiplied by a response factor.

27. (Original) A method for calculating a revised dose of Coumadin® for a patient, comprising the steps of:

accepting as input the patient's current Coumadin® dose;

accepting as input the maximum dose of Coumadin®;

accepting as input the percent response of the patient based on surrogate markers; and

calculating a revised dose, wherein said revised dose is a function of said current dose, said maximum dose, and said percent response of the patient based on said surrogate markers.

28. (Original) A method for calculating a revised dose of Coumadin® for a patient, comprising the steps of:

accepting as input a patient's current Coumadin® dose;

accepting as input a maximum dose of Coumadin®;

accepting as input the previous, current and desired values of one or more numerical markers indicating the response of the patient; and

calculating a revised dose, wherein said revised dose is a function of said current dose, said maximum dose, and said previous, current and desired values of said numerical markers.

29. (Original) A storage device having stored thereon an ordered set of instructions which, when executed by a computer, performs a method comprising the steps of:

accepting as input a patient's current Coumadin® dose;

accepting as input a maximum dose of Coumadin®;

accepting as input a percent response of a patient based on surrogate markers; and

calculating a revised dose, wherein said revised dose is a function of said current dose minus the ratio of a percent response of the patient and the ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

30. (Original) A storage device having stored thereon an ordered set of instructions which, when executed by a computer, performs a method comprising the steps of:

accepting as input the patient's current Coumadin® dose;

accepting as input the maximum dose of Coumadin®;

accepting as input one or more numerical markers indicating the response of the patient; and

calculating a revised dose, wherein said revised dose is a function of said current dose minus the ratio of the change in numerical markers and the ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

31. (Original) An apparatus for calculating a revised dose of Coumadin® for a patient comprising:

means for accepting as input one or more markers which indicate a patient's response to a dose of Coumadin®;

means for accepting as input the patient's current Coumadin® dose;

means for accepting as input the maximum dose of Coumadin®; and

means for calculating a revised dose of Coumadin® as a function of said markers, said current Coumadin® dose, and said maximum Coumadin® dose

32. (Original) The apparatus of claim 31, wherein:

said markers are actual numerical markers

33. (Original) The apparatus of claim 31, wherein:

said markers are surrogate markers representing a percent response of the patient to Coumadin®.

34. (Original) The apparatus of claim 31, wherein:

said revised dose is calculated by the equation:

RCD = CCD - {[((CCNM - DCNM)/CCNM)/(1 + (CCD/HIGH))] x CCD} + LV

where:

LV = {(RESPONSE x CCD) x [(1+D) - (1+E)]/ abs (1+D)} / 1.3^(CCD/HIGH)

E = CCNM - PCNM

D = DCNM – PCNM

and wherein:

RCD = Revised Coumadin® Dose

CCD = Current Coumadin® Dose

CCNM = Current Coumadin® Numerical Marker

DCNM = Desired Coumadin® Numerical Marker

PCNM = Previous Coumadin® Numerical Marker

HIGH = The input parameter that is the high dose range for Coumadin®

RESPONSE = Percent of total dose available for individualizing patient dose

abs = The absolute value of

1.3^(CCD/HIGH) = 1.3 raised to an exponent of (CCD/HIGH).

35. (Original) The apparatus of claim 31, wherein:

said revised dose is calculated by the equation:

RCD = CCD - {[⟨(PCR - 100)/PCR⟩/⟨1 + (CCD/HIGH)⟩] x CCD} + LV

where:

LV = {(RESPONSE x CCD) x [(100 - RES) x 0.01]} / 1.3^(CCD/HIGH)

and wherein:

RCD = Revised Coumadin® Dose

CCD = Current Coumadin® Dose

PCR = Percent response of patient to surrogate marker

RES = Percent response of patient to last dosing based on surrogate marker

HIGH = The input parameter that is the high dose range for Coumadin®

RESPONSE = Percent of total dose available for individualizing patient dose

1.3^(CDD/HIGH) = 1.3 raised to an exponent of (CD/HIGH).

36. (Original) A method for calculating a revised dose of warfarin or a substance containing warfarin for a patient using warfarin or said substance containing warfarin, comprising the steps of:

accepting as a first input the patient's current warfarin or said substance containing warfarin dose;

accepting as a second input a maximum dose of warfarin or said substance containing warfarin;

accepting as a third input a percent response of the patient based on one or more surrogate markers for said patient; and

determining a revised dose, wherein said revised dose is a function of said current dose minus a ratio of the percent response of the patient and a ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

37. (Original) The method of claim 36, wherein:

said determining step includes determining said revised dose based on the equation

RWD = CWD - {[(PWR - 100)/PWR)/(1 + (CWD/HIGH))] x CWD} + LV

where:

LV = {(RESPONSE x CWD) x [(100 - RES) x 0.01]} / 1.3^(CWD/HIGH)

and wherein:

RWD = Revised Warfarin or said substance containing warfarin Dose

CWD = Current Warfarin or a substance containing warfarin Dose

PWR = Percent response of patient to surrogate marker

RES = Percent response of patient to last dosing based on surrogate marker

HIGH = The input parameter that is the high dose range for warfarin or said substance containing warfarin

RESPONSE = Percent of total dose available for individualizing patient dose

abs = The absolute value of

1.3^(CWD/HIGH) = 1.3 raised to an exponent of (CWD/HIGH).

38. (Original) A method for calculating a revised dose of warfarin or a substance containing warfarin for a patient using warfarin or said substance containing warfarin comprising the steps of:

accepting as a first input the patient's current warfarin or said substance containing warfarin dose;

accepting as a second input the maximum dose of warfarin or said substance containing warfarin;

accepting as a third input one or more numerical markers indicating a response of the patient; and

calculating said revised dose, wherein said revised dose is a function of said current dose minus the ratio of the change in numerical markers and the ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

39. (Original) The method of claim 38, wherein:

said calculating step includes calculating said revised dose based on the equation

RWD = CWD - {[(CWNM - DWNM)/CWNM)/(1+ (CWD/HIGH))] x CWD} + LV

where:

LV = {(RESPONSE x CWD) x [(1+D) - (1+E)]/ abs (1+D)} / 1.3^(CWD/HIGH)

E = CWNM – PWNM

D = DWNM – PWNM

and wherein:

RWD = Revised Warfarin or said substance containing warfarin Dose

CWD = Current Warfarin or said substance containing warfarin Dose

CWNM = Current Warfarin or said substance containing warfarin Numerical Marker

DWNM = Desired Warfarin or said substance containing warfarin Numerical Marker

PWNM = Previous Warfarin or said substance containing warfarin Numerical Marker

HIGH = The input parameter that is the high dose range for warfarin or said substance containing warfarin

RESPONSE = Percent of total dose available for individualizing patient dose

abs = The absolute value of

1.3^(CWD/HIGH) = 1.3 raised to an exponent of (CWD/HIGH).

40. (Original) A method for determining a dose of warfarin or a substance containing warfarin for a patient, comprising the steps of:

administering an initial dose of warfarin or said substance containing warfarin to the patient;

evaluating the patient to monitor and characterize one or more numerical surrogate markers;

determining, based on said numerical surrogate markers, if a dose change for warfarin or said substance containing warfarin is necessary; and

calculating a revised dose as a function of said current dose minus the ratio of a percent response of the patient and the ratio of said current dose to ~~said~~ the maximum dose plus the percent of individual patient response multiplied by a response factor.

41. (Original) A method for determining a dose of warfarin or a substance containing warfarin for a patient, comprising the steps of:

administering an initial dose of warfarin or said substance containing warfarin to the patient;

examining the patient to monitor and characterize one or more numerical surrogate markers;

determining if a dose change is necessary; and

calculating a revised dose as a function of said current dose minus the ratio of the change in numerical markers and the ratio of said current dose to ~~said~~ the maximum dose plus the percent of individual patient response multiplied by a response factor.

42. (Original) A method for calculating a revised dose of warfarin or a substance containing warfarin for a patient, comprising the steps of:

accepting as input the patient's current warfarin or said substance containing warfarin dose;

accepting as input the maximum dose of warfarin or said substance containing warfarin;

accepting as input the percent response of the patient based on surrogate markers; and

calculating a revised dose, wherein said revised dose is a function of said current dose, said maximum dose, and said percent response of the patient based on said surrogate markers.

43. (Original) A method for calculating a revised dose of warfarin or a substance containing warfarin for a patient, comprising the steps of:

accepting as input a patient's current warfarin or said substance containing warfarin dose;

accepting as input a maximum dose of warfarin or said substance containing warfarin;

accepting as input the previous, current and desired values of one or more numerical markers indicating the response of the patient; and

calculating a revised dose, wherein said revised dose is a function of said current dose, said maximum dose, and said previous, current and desired values of said numerical markers.

44. (Original) A storage device having stored thereon an ordered set of instructions which, when executed by a computer, performs a method comprising the steps of:

accepting as input a patient's current warfarin or a substance containing warfarin dose;

accepting as input a maximum dose of warfarin or said substance containing warfarin;

accepting as input a percent response of a patient based on surrogate markers; and

calculating a revised dose, wherein said revised dose is a function of said current dose minus the ratio of a percent response of the patient and the ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

45. (Original) A storage device having stored thereon an ordered set of instructions which, when executed by a computer, performs a method comprising the steps of:

accepting as input the patient's current warfarin or a substance containing warfarin dose;

accepting as input the maximum dose of warfarin or said substance containing warfarin;

accepting as input one or more numerical markers indicating the response of the patient; and

calculating a revised dose, wherein said revised dose is a function of said current dose minus the ratio of the change in numerical markers and the ratio of said current dose to said maximum dose plus the percent of individual patient response multiplied by a response factor.

46. (Original) An apparatus for calculating a revised dose of warfarin or a substance containing warfarin for a patient, comprising:

means for accepting as input one or more markers which indicate a patient's response to a dose of warfarin or said substance containing warfarin;

means for accepting as input the patient's current warfarin or said substance containing warfarin dose;

means for accepting as input the maximum dose of warfarin or said substance containing warfarin; and

means for calculating a revised dose of warfarin or said substance containing warfarin as a function of said markers, said current warfarin or said substance containing warfarin dose, and said maximum warfarin or said substance containing warfarin dose

47. (Original) The apparatus of claim 46, wherein:

said markers are actual numerical markers

48. (Original) The apparatus of claim 46, wherein:

said markers are surrogate markers representing a percent response of the patient to warfarin or said substance containing warfarin.

49. (Original) The apparatus of claim 46, wherein:

said revised dose is calculated by the equation:

RWD = CWD - {[⟨((CWNM - DWNM)/CWNM)/(1+ (CWD/HIGH))⟩] x CWD} + LV

where:

LV = {(RESPONSE x CWD) x [(1+D) - (1+E)]/ abs (1+D)} / 1.3^(CWD/HIGH)

E = CWNM - PWNM

D = DWNM - PWNM

and wherein:

RWD = Revised Warfarin or said substance containing warfarin Dose

CWD = Current Warfarin or said substance containing warfarin Dose

CWNM = Current Warfarin or said substance containing warfarin Numerical Marker

DWNM = Desired Warfarin or said substance containing warfarin Numerical Marker

PWNM = Previous Warfarin or said substance containing warfarin Numerical Marker

HIGH = The input parameter that is the high dose range for warfarin or said substance containing warfarin

RESPONSE = Percent of total dose available for individualizing patient dose

abs = The absolute value of

1.3^CWD/HIGH) = 1.3 raised to an exponent of (CWD/HIGH).

50. (Original) The apparatus of claim 46, wherein:

said revised dose is calculated by the equation:

RWD = CWD - {[(PWR - 100)/PWR)/(1+ (CWD/HIGH))] x CWD} + LV

where:

LV = {(RESPONSE x CWD) x [(100 - RES) x 0.01]} /1.3^(CWD/HIGH)

and wherein:

RWD = Revised Warfarin or said substance containing warfarin Dose

CWD = Current Warfarin or said substance containing warfarin Dose

PWR = Percent response of patient to surrogate marker

RES = Percent response of patient to last dosing based on surrogate marker

HIGH = The input parameter that is the high dose range for warfarin or said substance containing warfarin

RESPONSE = Percent of total dose available for individualizing patient dose

abs = The absolute value of

1.3^(CWD/HIGH) = 1.3 raised to an exponent of (CWD/HIGH).